

# EVENT FOLLOW-UP REPORT

Participation to the event  
held on 25<sup>th</sup> of May 2023.

## Event summary

Type of event	Physical
Location (if physical)	Ploče, Port of Ploče Authority, Port of Ploče Entrance terminal
Date of the event	25 <sup>th</sup> of May 2023.
Time/Duration	11:00 – 14:00
Purpose of the event (By whom was it organized? What was the objective?)	Port of Ploče Authority has organized Local Public Event for the port stakeholders to present pilot activities resulted within the SUSPORT project focused on the project objectives.
Short description of the event (what happened during the event?)	During the Local event Port of Ploče authority has shared its experiences, challenges, priorities of the project activities in within the SUSPORT project. Pilot activities and results have been presented to the stakeholders and objectives of the project. After the presentation of the pilot activities partners from the KIP presented objectives of the project DIGSEA. Local event has also included Study visit and presentation of the project DIGSEA.
Results/Outcomes of the event (What are the takeaways from the event?)	Presentation of the pilot actions and debate in thematic after sessions will help to improve the synergy between the port stakeholders and Port of Ploče Authority with aim to better encourage collaboration between them and target groups in port areas.
Number of attendees	34
Type of stakeholders/target groups that were represented	General public, terminal operators, Freight forwarders, ship agencies, local, national and public authorities, enterprises. Transport operators.

## Photos of the event:



Figure 1 Local Event Ploče



Figure 2 Local Event Ploče



Figure 3 Local Event Ploče





Figure 4 Local Event Ploče

## Agenda:



LOCAL PUBLIC EVENT  
"SUSPORT" PROJECT  
AND  
STUDY VISIT PROJECT "DIGSEA"

Ploče, 25. 05. 2023.  
Glavna cesta 2,  
Ulazni terminal luke Ploče

Poštovani,

pozivamo Vas na javno događanje u svrhu prezentacije projekta SUSPORT iz Programa INTERREG IT-HR uz predstavljanje pilot aktivnosti koje je Lučka uprava Ploče realizirala u sklopu projekta.

U sklopu ovog javnog događanja, Klaster intermodalnog prijevoza predstavit će i projekt DIGSEA kojemu je svrha unaprjeđenje poslovanja luka kroz digitalizaciju.

Održivi razvoj, obnovljivi izvori energije i digitalizacija su svakako u fokusu današnjih zbivanja te se nadamo da ćete nam se pridružiti na ovome događanju kako bismo razmijenili mišljenja i iskustva te uspostavili još bolju i efikasniju mrežu za buduće suradnje.

Predmetni događaj će se održati 25. Svibnja 2023. godine u 11:00 sati u prostorima Lučke uprave Ploče (Glavna cesta 2, Ploče, zgrada Ulaznog terminala, 1. Kat).

Dobro nam došli!

Ravnatelj Lučke uprave Ploče  
Dr. sc. Tomislav Batur



**Javno događanje Projekt "SUSPORT" i studijski posjet Projekt DIGSEA  
(Local Public Event Project SUSPORT and Study Visit Project DIGESEA)**

**PROGRAM/AGENDA  
25. 05. 2023.**

11:00 Registracija / Registration

11:10 Pozdravni govor – Dr. sc. Tomislav Batur, Ravnatelj, Lučka uprava Ploče  
(Welcome speech – Dr. sc. Tomislav Batur, Executive Manager, Port of Ploče Authority)

11:20 Prezentacija projekta SUSPORT – Željko Vlahović, Darko Plećaš, Lučka uprava Ploče  
(Presentation of the project SUSPORT – Željko Vlahović, Darko Plećaš, Port of Ploče Authority)

11:30 Prezentacija pilot aktivnosti, Zamjena postojeće rasvjete s LED tehnologijom, Milan Mihaljević, Lučka uprava Ploče  
(Presentation of the pilot activity - Replacement of the existing port lightning system with energy-efficient technology, Milan Mihaljević, Port of Ploče Authority)

11:45 Prezentacija pilot aktivnosti – Nabava i implementacija zaštitnih brana, Zvonimir Vrankić, Lučka uprava Ploče  
(Presentation of the pilot activity - Purchase and implementation of environment protection barriers, Zvonimir Vrankić, Port of Ploče Authority)

12:00 Prezentacija pilot aktivnosti, Izmjena sustava hlađenja za potrebe podatkovnog centra, Instalacija senzornih stanica za nadzor i mjerenje, Darko Plećaš, Lučka uprava Ploče  
(Presentation of the pilot activity - Replacement of the existing air condition system in data center with energy-efficient technology; Installation of sensors and monitoring stations – Darko Plećaš, Port of Ploče Authority)


12:10    **Prezentacija pilot aktivnosti, Nabava distributivno zaštitnih serverskih ormara za potrebe smještaja ICT opreme s efikasnim sustavom hlađenja i distribucije energija s zaštitom od požara, vode, prašine, dima i neovlaštenog ulaza; Upravljanje incidentima s ciljem očuvanja okoliša, Darko Plečaš, Lučka uprava Ploče**  
(Presentation of the pilot activity, Micro Data Center solution for Data Recovery site; Digital Green Incident Management – Darko Plečaš, Port of Ploče Authority)

12:20    **Prezentacija projekta DIGSEA – gosp. Marijan Cukrov, Ravnatelj, Klaster intermodalnog prijevoza**  
(Project Presentation DIGSEA – Mr. Marijan Cukrov, Director, KIP)

12:50    **Rasprava**  
(Discussion)

13:00    **Domjenak**  
(Light lunch)


# Presentation number 1:



**Pilot activities in port of Ploče within the project SUSPORT**

LOCAL PUBLIC EVENT "SUSPORT" PROJECT AND STUDY VISIT PROJECT "DIGSEA"


Local Public Event | Ploče | May 25th 2023  
Port of Ploče Authority



**SUSPORT Sustainable PORTs**

Ploče | May 25th 2023

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**INTRODUCTION**

The main objective of SUSPORT is to enhance the environmental sustainability and energy efficiency of the ports in the Programme Area through increased institutional cooperation to create the basis for coordinated and permanent governance in the context of port environmental sustainability and energy efficiency at cross-border level, jointly developing action plans and a long-term strategy, increasing coordination and cooperation between ports to strengthen sustainability and competitiveness.

Through SUSPORT, ports of the Programme Area, will be able to share best practices and develop common methodologies for environmental sustainability and energy efficiency, to be tested in concrete pilot actions significantly improving the environmental performance of maritime transport in the whole Programme Area.




**INTRODUCTION**

Port of Ploče Authority

- Primary focus on creating and securing conditions for efficient management of maritime and public property.
- Creating preconditions for the transformation of the port from a transshipment port to a regional logistics center in which, in addition to the application of modern technologies, various distribution and additional services will be provided on goods that run through the port.

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**TERRITORIAL CHALLENGES**

- Maritime transport is the most sustainable way of transporting goods
  - 3 times less CO<sub>2</sub> than train
  - 10 times less CO<sub>2</sub> than road transport
- Ports as an important catalyst for economic growth
- Impact of port operations on air quality and CO<sub>2</sub> emissions

Need to reduce environmental impact of port operations by:

- Strengthening institutional capacity
- Coordinating a cross-border governance
- Developing a common model of environmental planning and energy efficiency
- Implementing concrete actions

- SUSPORT – Sustainable PORTs
- EU-IP-Labelled
- Co-funded by the Interreg Italy-Croatia Programme
- Project duration: 07/2020 – 12/2022
- Budget: 7,142,000 euros (6,010,700 ERDF)




**PARTNERSHIP**

Project Partners

- Eastern Adriatic Sea Port Authority – Ports of Trieste and Monfalcone
- COSEF – Porto Nogaro
- Northern Adriatic Sea Port Authority - Ports of Venice and Chioggia
- VIU – Venice International University
- ITL - Institute for Transport and Logistics
- Port of Ravenna Authority
- Central Adriatic Sea Ports Authority – Ports of Ancona, Pesaro, San Benedetto del Tronto, Pescara and Ortona
- Special Agency of the Chamber of Commerce of Chieti-Pescara
- Southern Adriatic Sea Port Authority - Ports of Bari, Brindisi, Manfredonia, Barletta and Monopoli
- Port of Rijeka Authority
- KIP – Klaster Intermodalnog Prijevoca
- Port of Zadar Authority
- Port of Split Authority
- Port of Ploče Authority
- Port of Dubrovnik Authority
- Dubrovnik Neretva County

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**PROJECT'S OBJECTIVES AND ACTIVITIES**

Main objective: to enhance port environmental sustainability and energy efficiency

Management

Cross-border planning of port environmental sustainability and energy efficiency

→

Raising institutional cross-border port environmental sustainability and energy efficiency

→

Providing a strategic framework for enhancing port environmental sustainability and energy efficiency

Communication



**PLANNING**

Main objective is to improve joint planning of port environmental sustainability and energy efficiency, through:

- 11 territorial analyses, assessing ex-ante situation on port-related sources of pollution and CO<sub>2</sub> emissions in each territory, including SWOT, stakeholder mapping and feasibility studies
- 1 best practice analysis
- 1 cross-border model of action plans for enhancing port environmental sustainability and energy efficiency, setting goals and targets in the medium and long term
- 11 local action plans

### TESTING

Thanks to the enhanced planning competences, pilot actions will be implemented in Trieste, Porto Nogaro, Venice, Ravenna, Ancona, Ortona, Bari, Rijeka, Zadar, Ploče and Dubrovnik in several fields:

- 1) replacement of the existing lightning system with LED light bulbs
- 2) installation of photovoltaic and solar thermal systems
- 3) implementation of e-mobility measures
- 4) improvement of the environmental performance of port buildings
- 5) installations of sensors and stations to monitor noise, air and water quality
- 6) pre-investment studies for on-shore power supply

Local experiences and expertise will be exchanged among partners, ensuring a relevant cross-border added value.







### SETTING STRATEGIES

The results of the joint planning and pilot actions are mainstreamed at high institutional level:

- ✓ Cross-border strategy for enhancing port environmental sustainability and energy efficiency
- ✓ Project partners sign an MoU committing to implementing the cross-border strategy, setting a long-term cross-border cooperation framework.
- ✓ Policy recommendations for EUSALP, EUSAIR and EUSDR.



Thank you for your kind attention!

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## Presentation number 2:



### AGENDA

- INTRODUCTION
- PROJECT PARTNER BUDGET
- PILOT ACTIVITIES
- CONTACT US

### INTRODUCTION

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### PROJECT PARTNER BUDGET

Max. ERDF amount of funding awarded	Approved Partner's co-financing	Approved total project budget
€ 374.200,00	€ 60.000,00	€ 434.200,00
<b>External services and Equipment (Pilot activities)</b> € 200.000,00  <b>Staff costs</b> € 75.000,00		



## PILOT ACTIVITES

- Replacement of the existing port lightning system with energy-efficient technology (A4.2) – 83.000,00 €
- Purchase and implementation of environment protection barriers (A4.2) – 42.300,00 €
- Replacement of the existing air condition system in Port of Ploče Authority data center with energy-efficient technology (A4.2) – 49.000,00 €
- Installation of sensors and stations for monitoring noise, air and water quality to measure concentrations in port areas and to display measurements with related development of IT platform to support data exchange within subsystems (A4.2) – 32.000,00 €



## PILOT ACTIVITES

- Micro Data Center solution for Data Recovery site with efficient cooling system and intelligent electrical power distribution. Will be located in port of Ploče area where physical protection is also needed against fire, water, dust, smoke and external access. – 34.000,00 €
- Digital Green Incident Management - Slow and incorrect actions when dealing with an incident or disruption (e.g. accident on a port terminal) leads to the emergence from a small incident to a crisis and thus to unnecessary consumption of resources or consequences for people and the environment. This is exactly where every second / minute that is saved through a quick and structured incident management approach is crucial. Especially if dangerous hazards are involved in an incident analysis showed that each minute where the situation is cleared faster there is a significant protection of the surrounding environment. Furthermore, unnecessary CO2 consumption is significantly reduced due to a faster, more structured and optimized approach. – 25.000,00 €



## PILOT ACTIVITES – Technical documents

- Professional supervision services for the execution of electrical works for the facility: energy renovation of outdoor lighting on sections of port road 1 and 2, Shunting track 1 and 2
- Preparation of analysis and feasibility study of the use of renewable energy sources in the area of the entrance terminal of the Port of Ploče with the aim of energy efficiency
- Preparation of a feasibility study for the project of application of the power supply system (Cold ironing) for ships from the mainland in the Port of Ploče with the aim of energy efficiency



## PILOT ACTIVITES – Technical documents

- Potential calculation, development of preliminary and main design of solar power plant 70-100kW
- Project of adaptation and air conditioning to a photovoltaic power plant
- Professional assistance service for external consultants in drafting documents TNA, Action plan
- The technical project documentation as prerequisite for the Replacement of the existing air condition system in Port of Ploče Authority data centre with energy efficient technology (A4.2)



## PILOT ACTIVITES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - Technology used for the existing lighting system is based on high-pressure Sodium with a total installed capacity of approximately 13 kW. The new built-in lighting would consist of LED reflectors with a total installed power of approx. 4-5 kW
  - With the installation of new The LED reflectors Port of Ploče Authority will achieve significant savings, increase the level of illumination and safety in these locations. These areas are public areas managed by Port of Ploče Authority.



## PILOT ACTIVITES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - With the aim of improving energy efficiency and safety at the port, the Port of Ploče Authority has replaced the existing port lighting system.
  - Total of 23 LED light bulbs and one LED lighting reflector were installed at the Shunting group No. 1., Shunting group of the Bulk Cargo Terminal and Port Main Road No. 1 and 2.
  - Total investment amounted to 83.000 EUR. The existing lighting system was over 30 years old. The new lighting system requires nearly no maintenance, and it will consume only one third of the energy compared to the former port lighting system.



### PILOT ACTIVITIES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - Glavna lučke ceste No. 1 and 2
  - Različna grupe kolodnjaka TRT-e
  - Različna grupe kolodnjaka No. 1
- Total installed capacity before the reconstruction project approx. 50 kW
- Total installed capacity after the reconstruction project 15 kW
- Total savings of approximately 70 % (cca 100 000 kn/year)
- Return on investment approx. 5-6 years



### PILOT ACTIVITIES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - Glavna lučke ceste No. 1 and 2
    - Lighting of the main port road no. 1 and 2 consist of 23 lighting poles with a distance of 30 m. A double-sided console is mounted on the pole, carrying two reflectors each with a power of 400 W (high-pressure Sodium).
    - This has been replaced by a new design solution that involves the dismantling of the double-sided console and existing lighting fixtures and the installation of a replacement LED spotlight with a power of 210 W (24 pieces). An additional light fixture was also added that illuminates the intersection of these two roads near the container terminal.
    - Prosječna rasvjetljenost 13 lx, minimalna rasvjetljenost 8.4 lx, maksimalna rasvjetljenost 25.1 lx.



### PILOT ACTIVITIES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - Različna grupe No. 1
    - Lighting of the roadways group no. 1 consists of 7 lighting poles (18 m in height) with a distance of 30-100 m from each other. A console is mounted on the pole, carrying 4 spotlights each with a power of 900 W (high-pressure Mercury).
    - This has been replaced by a new design solution that involves retaining the existing console and dismantling the existing lighting fixtures and installing replacement LED spotlights with a power of 225 W.
    - The total installed capacity of this string group has been reduced from the existing 25.2 kW to 5.1 kW.
    - Medium illumination 18.1 lx, minimum illumination 2.7 lx, maximum illumination 25.1 lx.
    - The results of illumination are somewhat lower than in the road area it is a very large area and a large number of tracks in the marshalling group that need to be covered with the existing grid of lighting poles



### PILOT ACTIVITIES - Description

- Replacement of the existing port lightning system with energy-efficient technology (A4.2)
  - Različna grupe TRT
    - The lighting of the TRT shunting group consists of 2 lighting poles (18 m high) with a distance of 70 m from each other. A console is mounted on the pole, carrying 6 spotlights each with a power of 900 W (high-pressure Mercury).
    - This has been replaced by a new design solution that involves retaining the existing console and dismantling the existing lighting fixtures and installing replacement LED spotlights with a power of 225 W.
    - The total installed capacity of this string group has been reduced from the existing 9 kW to 2.7 kW.
    - Medium illumination 18.1 lx, minimum illumination 6.4 lx, maximum illumination 23.2 lx.



### PILOT ACTIVITIES - Description

- Purchase and implementation of environment protection barriers (A4.2)
  - Port of Ploče Authority will purchase Environment protection barrier to increase safety in port area (sea side). Environment protection barrier will be mobile so that could be used in different port areas (sea side) if needed. It will be stored in special dedicated container located on special dedicated place in port area under supervision of Port of Ploče Authority.
  - In July 2021 the Port of Ploče Authority has contracted the purchase of the oil containment boom. The value of the equipment amounts to 42.851 EUR, which includes 345 m long floating barrier with towing bristles and air blower.
  - It will be used to contain oil spills in the port of Ploče. This investment will allow the Port of Ploče Authority to effectively respond to any marine oil spill incident at the port of Ploče area.



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PILOT ACTIVITES - Description



### PILOT ACTIVITIES - Description

- Replacement of the existing air condition system in Port of Ploče Authority data center with energy-efficient technology (A4.2)
  - For the purpose of more efficient cooling of IT equipment for indoor units, modular vertical cooling systems will be delivered. Cooling units will be placed at the full height of the server cabinets/racks. These are the most energy-efficient solutions that allow hot air from the equipment to be brought to the cooling modules in the shortest possible way. It enables distribution of cold air over the entire height of the server cabinets/rack.
  - They are placed between the racks and allow cooling of two or three racks depending on the total heat dissipation. According to the existing configuration of the data center, 3 server/communication cabinets/racks placed in two rows. For this kind of configuration, it will be installed 2 LCP (Liquid cooling device) DX devices per row or 4 devices in total. This achieves sufficient cooling capacity and achieves the necessary system redundancy.
  - The value of the equipment amounts to €8.000,00 EUR



### PILOT ACTIVITIES - Description

- Replacement of the existing air condition system in Port of Ploče Authority data center with energy-efficient technology (A4.2)
  - Installation has been made in The Port of Ploče Authority Data/Server room which is located in the new building of the new entrance terminal. Installation will cover installation of cooling units, power distribution system and project documentation. With the installation of the new IT cooling system Port of Ploče Authority will achieve significant energy savings.



### PILOT ACTIVITIES - Description

- Replacement of the existing air condition system in Port of Ploče Authority data center with energy-efficient technology (A4.2)



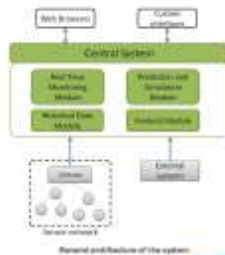
### PILOT ACTIVITIES - Description

- Replacement of the existing air condition system in Port of Ploče Authority data center with energy-efficient technology (A4.2)



### PILOT ACTIVITIES - Description

- Installation of sensors and stations for monitoring noise, air and water quality to measure concentrations in port areas and to display measurements with related development of IT platform to support data exchange within subsystems (A4.2)



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### PILOT ACTIVITES - Description

- Installation of sensors and stations for monitoring noise, air and water quality to measure concentrations in port areas and to display measurements with related development of IT platform to support data exchange within subsystems (M4.2)
- DATA MONITORING AND VISUALIZATION
  - The system will offer a web-based dashboard capable of showing the gathered data, both in a real time view and in an historical view, where the user will be able to filter specific parameters or periods.
  - The dashboard will offer many control panels, represented with a cartographic layout, where the system operator will be able to select a single sector mode, to read the measurements and to be warned when critical real time events occur, like for example alerts (low frequency detectors).
- ANOMALY DETECTION
  - The system will generate alerts based on custom rules defined by the users and when the data analysis module realizes that the incoming data is not following the usual historical patterns. For example if the system receives an abnormally high reading of LQD value from a set of sensors, or to send alerts for a malfunctioning single sensor, an alert is generated for the parameter change, by sending an email or showing an alert system to the dashboard.

### PILOT ACTIVITES - Description

- Installation of sensors and stations for monitoring noise, air and water quality to measure concentrations in port areas and to display measurements with related development of IT platform to support data exchange within subsystems (M4.2)
- PROTECTION AND SIMULATION
  - The system will enable to carry on predictive analysis, at the level of total emissions in the portland area, allowing the key actors of the present context (port and local public authorities, etc.), through the use of GIS (Decision Support Systems), to plan an efficient movement of cargo, to prevent risks due to traffic congestion, to reduce the total environmental impact of the activities (i.e. carbon footprint, noise, radonides, etc.).
  - This model will be built around the correlations between the environmental parameters measured by the sensors and the variables generated by the information system of the port.
  - The model will allow to gather information on ship voyages from Port Management Information Systems, like for example the list of transported goods and the load/unload operations, and label each process or macro process with an environmental impact footprint based on the parameter under examination. In this way the system will not be limited to only measuring the pollution level in the port area, but it will also be able to constantly update a predictive model, which will be used by the port and public authorities to simulate decision supporting scenarios and to forecast the trend of the assessed environmental variables.

### PILOT ACTIVITES - Description

- Micro Data Center solution for Data recovery with self-efficient cooling system and intelligent electrical power distribution, will be located in port of Ploče area where physical protection is also needed against fire, water, dust, smoke and external access. (M4.2)



### PILOT ACTIVITES - Description

- Digital Green Incident Management (M4.2)
- Information security and safety and security in ports are closely interconnected and both play a key role in ensuring protection and smooth operation port facilities.
- Here are some key points that highlight the link between information security and protection and security in ports:

- Protection of critical infrastructure
- Integration of the physical security
- Cybersecurity operational technology
- Protection of sensitive data
- Emergency response and incident management
- Supply chain security

### PILOT ACTIVITES - Description

- Digital Green Incident Management (M4.2)
- In short, information security and security in ports intertwined are areas that must be holistically addressed in order to protect port facilities, prevent interruptions, protect sensitive data and ensure the efficient and safe flow of goods and services through the global chain supply.
- Within the EU project SUSPORT "incident management with the aim of reducing incidents that have an impact on the environment and people in port areas", the Port of Ploče Authority aiming to achieve a higher level of information security and security and security with an emphasis on managing incidents that have an impact on the environment and people in port areas.

### Contact

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